

SEQUENCE LISTING

<110> Caimi, Perry G.  
Famodu, Omolayo O.  
Lee, Jiang-Ming  
Miao, Guo-Hua  
Maxwell, Carl A.

<120> Disease Resistance Factors

<130> BB-1356

<140> 10/009,791  
<141>

<150> 60/133,041  
<151> 1999-05-07

<160> 38

<170> Microsoft Office 97

<210> 1  
<211> 701  
<212> DNA  
<213> Zea mays

<220>  
<221> unsure  
<222> (389)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (457)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (531)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (591)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (637)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (658)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (693)

<223> n = A, T, C, or G

<220>

<221> unsure

<222> (699)..(700)

<223> n = A, T, C, or G

<400> 1

gcggacgcgt gggctggaaa cactttcct ggaagaaagc acaattgatg agaaagaaaa 60  
tgcgtggatccgtgagc ttgctacgag caattctgtt cttgagacac tgaatttctt 120  
tctaacaat ctcaggcat ccccagagta tcttaccctc cttgtgcgcactgtcaacg 180  
attgaaaact ctgaagatta gtgaatgtt catgcccgtatggtcagtt tggtccgaa 240  
tgcacacaaca ctacaagagt tcgctgggtt ttcccttggaa gggcagggtc aacctgtggc 300  
aagttagaaat tatgagaact actatttcc tccttactg caccgcttgcgttgcgtcta 360  
catggaaaca aatgatatgc aaatactgnt tccatatgct actgcactta agaagttaga 420  
ccttcagttt acattccctt ccacagagga tcattgnacat atagttcaac gctgctccaa 480  
tctggaaacc ttagaggtga gggatgtcat agggatcgg ggactacaag ntggtgacaa 540  
gacctgcaag aaattgcata ggctcagagt agagagagga gatgatgatc nagaggtctt 600  
gaggatgaac caaggttagga atttcacagg gtgggntga tgggtatagg cccaaggntg 660  
gccttgggtt gacatactgg gccgataccatgnnn c 701

<210> 2

<211> 194

<212> PRT

<213> Zea mays

<220>

<221> UNSURE

<222> (128)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (150)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (175)

<223> Xaa = any amino acid

<400> 2

Arg Gly Leu Glu Thr Leu Phe Leu Glu Glu Ser Thr Ile Asp Glu Lys  
1 5 10 15

Glu Asn Asp Glu Trp Ile Arg Glu Leu Ala Thr Ser Asn Ser Val Leu  
20 25 30

Glu Thr Leu Asn Phe Phe Leu Thr Asp Leu Arg Ala Ser Pro Glu Tyr  
35 40 45

Leu Thr Leu Leu Val Arg Asn Cys Gln Arg Leu Lys Thr Leu Lys Ile  
50 55 60

Ser Glu Cys Phe Met Pro Asp Leu Val Ser Leu Phe Arg Thr Ala Gln  
65 70 75 80

Thr Leu Gln Glu Phe Ala Gly Ser Phe Glu Glu Gln Gly Gln Pro  
85 90 95

Val Ala Ser Arg Asn Tyr Glu Asn Tyr Tyr Phe Pro Pro Ser Leu His  
100 105 110

Arg Leu Ser Leu Leu Tyr Met Gly Thr Asn Asp Met Gln Ile Leu Xaa  
115 120 125

Pro Tyr Ala Thr Ala Leu Lys Lys Leu Asp Leu Gln Phe Thr Phe Leu  
130 135 140

Ser Thr Glu Asp His Xaa Gln Ile Val Gln Arg Cys Ser Asn Leu Glu  
145 150 155 160

Thr Leu Glu Val Arg Asp Val Ile Gly Asp Arg Gly Leu Gln Xaa Gly  
165 170 175

Ala Gln Thr Cys Lys Lys Leu His Arg Leu Arg Val Glu Arg Gly Asp  
180 185 190

Asp Asp

<210> 3

<211> 844

<212> DNA

<213> Oryza sativa

<220>

<221> unsure

<222> (352)

<223> n = A, T, C, or G

<220>

<221> unsure

<222> (823)

<223> n = A, T, C, or G

<400> 3

atcactccaa cttaactgtt cttgcggta ggaatgtat tggagataga ggatttaggg 60  
ttgttgacaga cacatgcaag aagctacaaa gactcagagt tgagcgagga gatgtatgtc 120  
caggtttgc aagaagaacaa ggaggagtct ctcaagtccg gttgacaact gtagccgtag 180  
gatgccgtga actggaatac atagctgcct atgtgtctga tatcacaat ggggcccctgg 240  
agtctattgg gactttctgc aaaaatctt gcgacttccg tcttgcctca ctcgataagag 300  
aagagaggat aacagatttgc cccttagaca atgggtgtccg tgcactgctg angggctgca 360  
cgaaacttcg gaggttgct ctataacttga gaccaggggg actttcagat acaggcccttg 420  
gctatattgg acagttacagt ggaattatcc aatacatgtt tctggtaat gttggggaaa 480  
cagatgtatgg tctgatccgg tttgcattgg ggtgtgagaa cctgcggaaag cttgagctaa 540  
ggagttgttgc cttcagtgttgc caagctttgc cccgcgttat acggaggatgc cttcccttg 600  
gatacgtgttgc ggtacagggtt ctaaggactgg tcacgttgc atgctcatgg 660  
caggcccttc tgaacatag agtttacacc tcccagaaga ctggtcacga tctcatgttc 720  
atggcaggcc cttctggaaatc atagagtttgc cacctccatgc ttctgttgc 780  
tgagagaaga tggtaatcatgc caactcagat acnctgcggaa cgtataatcgaa 840  
tagg 844

<210> 4

<211> 236

<212> PRT

<213> Oryza sativa

<220>

<221> UNSURE

<222> (115)

<223> Xaa = any amino acid

<400> 4

Asn Leu Leu Val Leu Ala Val Arg Asn Val Ile Gly Asp Arg Gly Leu  
1 5 10 15

Gly Val Val Ala Asp Thr Cys Lys Lys Leu Gln Arg Leu Arg Val Glu  
20 25 30

Arg Gly Asp Asp Asp Pro Gly Leu Gln Glu Glu Gln Gly Gly Val Ser  
35 40 45

Gln Val Gly Leu Thr Thr Val Ala Val Gly Cys Arg Glu Leu Glu Tyr  
50 55 60

Ile Ala Ala Tyr Val Ser Asp Ile Thr Asn Gly Ala Leu Glu Ser Ile  
65 70 75 80

Gly Thr Phe Cys Lys Asn Leu Cys Asp Phe Arg Leu Val Leu Leu Asp  
85 90 95

Arg Glu Glu Arg Ile Thr Asp Leu Pro Leu Asp Asn Gly Val Arg Ala  
100 105 110

Leu Leu Xaa Gly Cys Thr Lys Leu Arg Arg Phe Ala Leu Tyr Leu Arg  
115 120 125

Pro Gly Gly Leu Ser Asp Thr Gly Leu Gly Tyr Ile Gly Gln Tyr Ser  
130 135 140

Gly Ile Ile Gln Tyr Met Leu Leu Gly Asn Val Gly Glu Thr Asp Asp  
145 150 155 160

Gly Leu Ile Arg Phe Ala Leu Gly Cys Glu Asn Leu Arg Lys Leu Glu  
165 170 175

Leu Arg Ser Cys Cys Phe Ser Glu Gln Ala Leu Ala Arg Ala Ile Arg  
180 185 190

Ser Met Pro Ser Leu Arg Tyr Val Trp Val Gln Gly Tyr Lys Ala Ser  
195 200 205

Lys Thr Gly His Asp Leu Met Leu Met Ala Arg Pro Phe Trp Asn Ile  
210 215 220

Glu Phe Thr Pro Pro Arg Arg Leu Val Thr Ile Ser  
225 230 235

<210> 5

<211> 482

<212> DNA

<213> Glycine max

<400> 5

gcggaagaca cgtgtggtcg acgtggcct cgactgcgtc atcccttaca tcgacgaccc 60  
caaggaccgc gacgcccgtt cccaggtgtc tcgacgctgg tacgagctcg actcgctcac 120  
ccgcaagcac gtcaccatcg cgctctgcta caccaccacc ccggctcgcc tccgcccgg 180  
cttccgcac ctcgagtcgc tcaagctcaa gggcaagccc cgagccgcaa tggtaactt 240  
gatacccgag gattggggcg gacacgtcac tccctgggtc aaagagattt ctcaagtact 300

tcgattgcct caagagcctc cacttccgcc gcatgattgt caagggattc cgatcttcag 360  
aatctcgctc gtgaccgcgg tcacgtgctt cacgctctca aagcttgaca agtgctccgg 420  
tttcaacaac gatggtcctt tccatatcgg gtcgctttg caaagaagtt taagagtccct 480  
gt 482

<210> 6  
<211> 108  
<212> PRT  
<213> Glycine max

<220>  
<221> UNSURE  
<222> (97)  
<223> Xaa = any amino acid

<400> 6  
Val Asp Val Val Leu Asp Cys Val Ile Pro Tyr Ile Asp Asp Pro Lys  
1 5 10 15

Asp Arg Asp Ala Val Ser Gln Val Cys Arg Arg Trp Tyr Glu Leu Asp  
20 25 30

Ser Leu Thr Arg Lys His Val Thr Ile Ala Leu Cys Tyr Thr Thr Thr  
35 40 45

Pro Ala Arg Leu Arg Arg Arg Phe Pro His Leu Glu Ser Leu Lys Leu  
50 55 60

Lys Gly Lys Pro Arg Ala Ala Met Phe Asn Leu Ile Pro Glu Asp Trp  
65 70 75 80

Gly Gly His Val Thr Pro Trp Val Lys Glu Ile Ser Gln Val Leu Arg  
85 90 95

Xaa Leu Lys Ser Leu His Phe Arg Arg Met Ile Val  
100 105

<210> 7  
<211> 794  
<212> DNA  
<213> Triticum aestivum

<220>  
<221> unsure  
<222> (270)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (356)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (675)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (689)

<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (702)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (729)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (743)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (752)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (761)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (769)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (777)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (783)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (785)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (790)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (793)  
<223> n = A, T, C, or G

<400> 7  
gtaggattga tggctgttagc tgaaggctgt cctgatttg agtactggc agtacatgtg 60  
tctgacatta caaatgcagc tcttgaggct attggcgcat tcagcaaaaa cctgaacgat 120

ttccgacttg tcctgcttga tagagaggtg catataactg aactgcccct tgacaacggg 180  
 gttcgggctt tgctgagagg ttgcacaaa ctccggaggt ttgcatttttgtgagacct 240  
 ggagctctat cagatattgg ccttcttan gttggcgaa tttagcaaga ccgtccgcta 300  
 catgttgctt gggaatgcccgggggtctga ttagggactg ctggcatttg cacgangatg 360  
 cccaagcttgcagaattgg agctaaggag ttgctgctt agtgaacgtg cattggcagt 420  
 tgcagcccta cagctgaagt cactcagata tctttgggtg caggataaca aggcatctcc 480  
 tactggcacc gatctcatgg caatggtacg ccccttctgg aacattgagt ttattgcacc 540  
 aaatcaagat gagccttgcc cagaggtca ggacagattt ggcatactac tctctgggtgg 600  
 ggaaggcaga ttgtccttagt cagattccc tccatcgtag tggagctaa aagaccacca 660  
 ccagtttact gacancatgt ttagtgcagna accacatcg anaggaattt actacagtgc 720  
 aattagggtt gaagctcagt aangaccatc tnatgcttga nttagggana tttgggnact 780  
 gtnantgcan agna 794

<210> 8  
 <211> 177  
 <212> PRT  
 <213> *Triticum aestivum*

<220>  
 <221> UNSURE  
 <222> (89)  
 <223> Xaa = any amino acid

<220>  
 <221> UNSURE  
 <222> (118)  
 <223> Xaa = any amino acid

<400> 8  
 Gly Leu Met Ala Val Ala Glu Gly Cys Pro Asp Leu Glu Tyr Trp Ala  
 1 5 10 15  
  
 Val His Val Ser Asp Ile Thr Asn Ala Ala Leu Glu Ala Ile Gly Ala  
 20 25 30  
  
 Phe Ser Lys Asn Leu Asn Asp Phe Arg Leu Val Leu Leu Asp Arg Glu  
 35 40 45  
  
 Val His Ile Thr Glu Leu Pro Leu Asp Asn Gly Val Arg Ala Leu Leu  
 50 55 60  
  
 Arg Gly Cys Thr Lys Leu Arg Arg Phe Ala Phe Tyr Val Arg Pro Gly  
 65 70 75 80  
  
 Ala Leu Ser Asp Leu Ala Phe Leu Xaa Leu Gly Glu Phe Ser Lys Thr  
 85 90 95  
  
 Val Arg Tyr Met Leu Leu Gly Asn Ala Gly Gly Ser Asp Asp Gly Leu  
 100 105 110  
  
 Leu Ala Phe Ala Arg Xaa Cys Pro Ser Leu Gln Lys Leu Glu Leu Arg  
 115 120 125  
  
 Ser Cys Cys Phe Ser Glu Arg Ala Leu Ala Val Ala Leu Gln Leu  
 130 135 140  
  
 Lys Ser Leu Arg Tyr Leu Trp Val Gln Gly Tyr Lys Ala Ser Pro Thr  
 145 150 155 160

Gly Thr Asp Leu Met Ala Met Val Arg Pro Phe Trp Asn Ile Glu Phe  
165 170 175

Ile

<210> 9  
<211> 426  
<212> DNA  
<213> *Oryza sativa*

<220>  
<221> unsure  
<222> (270)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (380)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (393)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (396)..(397)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (408)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (413)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (418)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (423)  
<223> n = A, T, C, or G

<400> 9  
gctgtgaggt cggccgaaggc gtgcgcgatc aagttccccca ccctcgatc gcaagggtcg 60  
ctcttcgtgt ggcccgacga gaatgggtgg gagaaggcca cggctaccaa gcctccgatg 120  
ttaccgaaagg agtttgagga tcctcgatcc tccacggta ccatccagag ggatctgtac 180  
tatggctatg atacattgtat ggagaacgtc tctgatccgt cgcatataga atttgctcac 240  
cacaagggtca ctgggtcgaa gagatcgaan caagccttt gccaattcaa gaatggaaat 300  
caaagtgggt gcaatggggg ataattcaag gggtaaaatt tctggaaaa ccctccgat 360  
caagtggcaa ctttttggtn ggcccccttg ccnatnnac ttgaaacnaa aanttggng 420  
atnaga 426

<210> 10

<211> 107

<212> PRT

<213> Oryza sativa

<220>

<221> UNSURE

<222> (90)

<223> Xaa = any amino acid

<400> 10

Ala Val Arg Ser Pro Lys Ala Cys Ala Ile Lys Phe Pro Thr Leu Val  
1 5 10 15

Ser Gln Gly Leu Leu Phe Val Trp Pro Asp Glu Asn Gly Trp Glu Lys  
20 25 30

Ala Thr Ala Thr Lys Pro Pro Met Leu Pro Lys Glu Phe Glu Asp Pro  
35 40 45

Ala Phe Ser Thr Val Thr Ile Gln Arg Asp Leu Tyr Tyr Gly Tyr Asp  
50 55 60

Thr Leu Met Glu Asn Val Ser Asp Pro Ser His Ile Glu Phe Ala His  
65 70 75 80

His Lys Val Thr Gly Ser Lys Arg Ser Xaa Gln Ala Phe Cys Gln Phe  
85 90 95

Lys Asn Gly Asn Gln Ser Trp Cys Asn Gly Gly  
100 105

<210> 11

<211> 465

<212> DNA

<213> Glycine max

<220>

<221> unsure

<222> (460)

<223> n = A, T, C, or G

<400> 11

aaaccattga tggcgctccc tcactccatc tctgccttag ccaccacact cacactctcc 60  
tcccaataa ccaaacccca taaagttAAC ccctttccct tttcctcgaa ccgaaatcca 120  
caatTTTAA cgaaacAAAC ggcgaccaga agcagaAGAA acctctccct aaccctcgca 180  
cgcgTTGCGG cggcaccctc aacggTTGAA gcccgtatcgat tataccAGA ggccgAAAT 240  
aacgaaACTG aggaAGAGTT tagcgacgag agctttccct ctaaattcac ttggaggGAT 300  
cactggTacc ctgtctcgTT aattGAAGAT ctgaaccctc tcttgcccac accgtttcag 360  
cttctgggtc gtgaaatcgt gctctggTAC gacaAGTCCA tttcccaatG ggTTgcttt 420  
gatgacAAAT gccccatcg tcttgccct ttatctgaan ggagg 465

<210> 12

<211> 66

<212> PRT

<213> Glycine max

<220>

<221> UNSURE

<222> (65)  
<223> Xaa = any amino acid

<400> 12  
Glu Ser Ser Ser Ser Lys Phe Thr Trp Arg Asp His Trp Tyr Pro Val  
1 5 10 15

Ser Leu Ile Glu Asp Leu Asn Pro Leu Leu Pro Thr Pro Phe Gln Leu  
20 25 30

Leu Gly Arg Glu Ile Val Leu Trp Tyr Asp Lys Ser Ile Ser Gln Trp  
35 40 45

Val Ala Phe Asp Asp Lys Cys Pro His Arg Leu Ala Pro Leu Ser Glu  
50 55 60

Xaa Arg  
65

<210> 13  
<211> 558  
<212> DNA  
<213> Triticum aestivum

<220>  
<221> unsure  
<222> (207)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (216)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (249)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (254)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (269)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (294)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (310)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (330)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (335)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (339)..(340)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (365)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (386)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (404)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (406)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (445)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (451)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (462)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (470)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (475)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (483)..(484)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (490)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (496)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (498)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (511)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (514)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (520)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (522)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (528)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (533)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (545)  
<223> n = A, T, C, or G

<400> 13  
ccagggcctg ctttcgct ggcctgacga gaatggatgg gacaaggcca aggccaccaa 60  
gcctccaatg ctgccgaagg agttcgatga cccggccttc tccaccgtga cgatccagag 120  
ggacctttc tatgggtatg acacgttcat ggagaacgtc tctgatccct cgcatataga 180  
atggctcac cacaaggta cttggacnaag agatanagcc aagcctttgc catttaaat 240

ggaatcaant ggcnccatggg gatattcang ggcaaatacc ggcaatcctc gcancactgc 300  
aactttcgan gccccttggc tatgcactgn aacanaatnn agattgacac caaattaacc 360  
gattntggga gatcacaaat gggtcntatg gatttgctcc ttcnanattc caaaggccca 420  
aggaaaatcg ttctattgtc cgtantgctc naaactttc antttaaattn ccacnaagga 480  
tgnngaattn tcccccantg tacaacattt gncatgangc aantatctct 540  
tcagncacaa agtccgt 558

<210> 14  
<211> 105  
<212> PRT  
<213> *Triticum aestivum*

<220>  
<221> UNSURE  
<222> (69)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (72)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (83)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (85)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (90)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (98)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (103)  
<223> Xaa = any amino acid

<400> 14  
Gln Gly Leu Leu Phe Val Trp Pro Asp Glu Asn Gly Trp Asp Lys Ala  
1 5 10 15

Lys Ala Thr Lys Pro Pro Met Leu Pro Lys Glu Phe Asp Asp Pro Ala  
20 25 30

Phe Ser Thr Val Thr Ile Gln Arg Asp Leu Phe Tyr Gly Tyr Asp Thr  
35 40 45

Leu Met Glu Asn Val Ser Asp Pro Ser His Ile Glu Phe Ala His His  
50 55 60

Lys Val Thr Gly Xaa Arg Asp Xaa Ala Lys Pro Leu Pro Phe Lys Met  
65 70 75 80

Glu Ser Xaa Gly Xaa Trp Gly Tyr Ser Xaa Ala Asn Thr Gly Asn Pro  
85 90 95

Arg Xaa Thr Ala Thr Phe Xaa Ala Pro  
100 105

<210> 15

<211> 562

<212> DNA

<213> Zea mays

<220>

<221> unsure

<222> (136)

<223> n = A, T, C, or G

<220>

<221> unsure

<222> (562)

<223> n = A, T, C, or G

<400> 15

cgccgtgctc gtccgcgcgc gcgccacatg ctacaggtgc tcaagctcga caagtgcctcc 60  
ggcttctcaa cggacgcctt ccgcctcgctc gcccgtcct gcagatctct gagaactttg 120  
ttcctggaaat aatgtntaat tgccgatgaa gggagcgaat ggctccatga actcgccgtc 180  
aacaattctg ttctgggtgac actgaacttc tacatgacag aactcaaagt ggagcctgccc 240  
gatctggagc ttottgcaag gaactgtaaa tcattgattt ctctgaagat gagtgactgc 300  
gatctttcggtt atttgatggttttctccaaa cctccaaaggc actgcaagaa ttgcgtggag 360  
gcccgtttttt cgaatatcgga gagtacacca agtacgaaaa ggtcaagctc ccacctaagc 420  
tatgcttctt ggggggtctt accttcatgg gtaaaaaacgaa gatgcccgtt aatctttccg 480  
tattctgcgt tcgcttaaga aactggacact gcagtgactt ttccctcacc actgaagatc 540  
actgtcagct taatcgctaa an 562

<210> 16

<211> 186

<212> PRT

<213> Zea mays

<220>

<221> UNSURE

<222> (46)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (111)

<223> Xaa = any amino acid

<400> 16

Arg Arg Ala Arg Pro Arg Ala Arg His Met Leu Gln Val Leu Lys Leu  
1 5 10 15

Asp Lys Cys Ser Gly Phe Ser Thr Asp Ala Leu Arg Leu Val Ala Arg  
20 25 30

Ser Cys Arg Ser Leu Arg Thr Leu Phe Leu Glu Glu Cys Xaa Ile Ala  
35 40 45

Asp Glu Gly Ser Glu Trp Leu His Glu Leu Ala Val Asn Asn Ser Val  
50 55 60

Leu Val Thr Leu Asn Phe Tyr Met Thr Glu Leu Lys Val Glu Pro Ala  
65 70 75 80

Asp Leu Glu Leu Leu Ala Arg Asn Cys Lys Ser Leu Ile Ser Leu Lys  
85 90 95

Met Ser Asp Cys Asp Leu Ser Asp Leu Met Val Phe Ser Lys Xaa Ser  
100 105 / 110

Lys Ala Leu Gln Glu Phe Ala Gly Gly Ala Phe Phe Glu Ile Gly Glu  
115 120 125

Tyr Thr Lys Tyr Glu Lys Val Lys Leu Pro Pro Lys Leu Cys Phe Leu  
130 135 140

Gly Gly Leu Thr Phe Met Gly Lys Asn Glu Met Pro Val Asn Leu Ser  
145 150 155 160

Val Phe Cys Val Arg Leu Arg Asn Trp Thr Cys Ser Thr Leu Ser Leu  
165 170 175

Thr Thr Glu Asp His Cys Gln Leu Asn Arg  
180 185

<210> 17

<211> 1728

<212> DNA

<213> Zea mays

<400> 17

ccacgcgtcc gcggacgcgt gggctggaaa cactttcct ggaagaaaagc acaattgtatg 60  
agaaaagaaaa ttagttagtgg atccgtgagc ttgctacgag caattctgtt cttgagacac 120  
tgaatttctt tcttaacagat ctcaggccat ccccaagatgat tcttaccctc cttgtgcgca 180  
actgtcaacg attgaaaact ctgaagatata gtgaatgttt catgcccgtatgatc 240  
tggccggaaac tgcacaaaca ctacaagatgatc tcgctggatgg ttcccttgaa gagcagggtc 300  
aacctgtggc aagtagaaat tatgagaact actatttcc tccttcactg caccgcttga 360  
gtttgctcta catggaaaca aatgatatgc aaatactgtt tccatatgct actgcactta 420  
agaagttaga ctttcagttt acattccctt ccacagagatc tcattgtatgatc 480  
gctgctccaa tctggaaacc ttagaggtga gggatgtatc agggatgtatc ggactacaag 540  
ttgttgcaca gacctgcaag aaattgcata ggctcagatc agagagatc gatgtatc 600  
aaggaggctt tgaggatgaa caaggtatggatggatggatggatggatggatggatggatgg 660  
aaggctgccc ttagttgaca tactggccatc tacatgtatc agacattaca aatgcacatc 720  
tagaggcagt tggatcatgc agcaaaaatc ttaatgtatc ccgccttgc tcccttgata 780  
gagaagcaca tataaccgaa ttgccactgg acaatggggatc tcgtgtttt ctttagagatc 840  
gcacccaaact acggaggatggatggatggatggatggatggatggatggatggatggatgg 900  
ttggctatgt tggagaattt agtaagatggatggatggatggatggatggatggatggatgg 960  
aatctgataa tggaaatcata caattatcaa aaggctgccc aagcttgcataaaactggagg 1020  
tgaggggttg tctctttatgt gaggatgtatc tagctttggatc tgcaactacatc cttaaatgtatc 1080  
tgaggtatct tggggatcataa ggattcaggatc catctccaaatc tggaaatgtatc attatggca 1140  
tggatcggcc cttctggaaatc attgaggatata ttgttccatc tcaagatggatggatggatggatgg 1200  
agcataaagatc acagattctg gcataactact cccttgcgtgg caggaggaca gattgtcctc 1260  
catcgtatc tctgttttgc cccgcattttt gaggatgtatc acttgccttt tgccagactg 1320  
aatctcatgg tactaaatgtatc cattggccatc actatgtatc aagtaaaatggatggatggatggatggatgg 1380  
tccaattgtatc gaggacatgc agacgttcca gtgcaaagaa ccccaaaatggatggatggatggatggatgg 1440  
caggacggcc agctctgtatc tgaggatgtatc tgagaacaat catgaataacc tgaaggcagc 1500  
acttatgtatc gcttggccatc gctgtccatc atggggatgtatc aagctttaccatc ttttgcata 1560

gttttggaga aacaattttg caataactac ccttgtttag tgtatattat cgatttcgt 1620  
tcatatgctg ttgtattgtt gtattgaaca attatgtcaa ttaat tagtc tacactctac 1680  
agtctaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaag 1728

<210> 18  
<211> 429  
<212> PRT  
<213> Zea mays

<400> 18  
Thr Arg Pro Arg Thr Arg Gly Leu Glu Thr Leu Phe Leu Glu Glu Ser  
1 5 10 15  
Thr Ile Asp Glu Lys Glu Asn Asp Glu Trp Ile Arg Glu Leu Ala Thr  
20 25 30  
Ser Asn Ser Val Leu Glu Thr Leu Asn Phe Phe Leu Thr Asp Leu Arg  
35 40 45  
Ala Ser Pro Glu Tyr Leu Thr Leu Leu Val Arg Asn Cys Gln Arg Leu  
50 55 60  
Lys Thr Leu Lys Ile Ser Glu Cys Phe Met Pro Asp Leu Val Ser Leu  
65 70 75 80  
Phe Arg Thr Ala Gln Thr Leu Gln Glu Phe Ala Gly Gly Ser Phe Glu  
85 90 95  
Glu Gln Gly Gln Pro Val Ala Ser Arg Asn Tyr Glu Asn Tyr Tyr Phe  
100 105 110  
Pro Pro Ser Leu His Arg Leu Ser Leu Leu Tyr Met Gly Thr Asn Asp  
115 120 125  
Met Gln Ile Leu Phe Pro Tyr Ala Thr Ala Leu Lys Lys Leu Asp Leu  
130 135 140  
Gln Phe Thr Phe Leu Ser Thr Glu Asp His Cys Gln Ile Val Gln Arg  
145 150 155 160  
Cys Ser Asn Leu Glu Thr Leu Glu Val Arg Asp Val Ile Gly Asp Arg  
165 170 175  
Gly Leu Gln Val Val Ala Gln Thr Cys Lys Lys Leu His Arg Leu Arg  
180 185 190  
Val Glu Arg Gly Asp Asp Gln Gly Gly Leu Glu Asp Glu Gln Gly  
195 200 205  
Arg Ile Ser Gln Val Gly Leu Met Ala Ile Ala Gln Gly Cys Pro Glu  
210 215 220  
Leu Thr Tyr Trp Ala Ile His Val Ser Asp Ile Thr Asn Ala Ala Leu  
225 230 235 240  
Glu Ala Val Gly Thr Cys Ser Lys Asn Leu Asn Asp Phe Arg Leu Val  
245 250 255  
Leu Leu Asp Arg Glu Ala His Ile Thr Glu Leu Pro Leu Asp Asn Gly  
260 265 270

Val Arg Ala Leu Leu Arg Gly Cys Thr Lys Leu Arg Arg Phe Ala Phe  
275 280 285

Tyr Val Arg Pro Gly Ala Leu Ser Asp Val Gly Leu Gly Tyr Val Gly  
290 295 300

Glu Phe Ser Lys Ser Ile Arg Tyr Met Leu Leu Gly Asn Val Gly Glu  
305 310 315 320

Ser Asp Asn Gly Ile Ile Gln Leu Ser Lys Gly Cys Pro Ser Leu Gln  
325 330 335

Lys Leu Glu Val Arg Gly Cys Leu Phe Ser Glu His Ala Leu Ala Leu  
340 345 350

Ala Ala Leu Gln Leu Lys Ser Leu Arg Tyr Leu Trp Val Gln Gly Phe  
355 360 365

Arg Ser Ser Pro Thr Gly Thr Asp Ile Met Ala Met Val Arg Pro Phe  
370 375 380

Trp Asn Ile Glu Tyr Ile Val Pro Asp Gln Asp Glu Pro Cys Pro Glu  
385 390 395 400

His Lys Arg Gln Ile Leu Ala Tyr Tyr Ser Leu Ala Gly Arg Arg Thr  
405 410 415

Asp Cys Pro Pro Ser Val Thr Leu Leu Tyr Pro Ala Phe  
420 425

<210> 19

<211> 2240

<212> DNA

<213> Oryza sativa

<400> 19

ccccgggct qcaggaattc ggcacgagct ctcccttctc ctcctttca ccaccaccac 60  
caccaccagc agcagcagag agcaccatct ccatccaata atccccatgc ttgcgcacca 120  
ctccggcca catcccgccg gaggaggagg aggaggagg gggtgtgctt gatccgcct 180  
cccgcttggt tgggtgggtt ggggtgaggg gggagggatg ggaggggagg caccggaggc 240  
gcggcggttg gaccgcgcga tgagcttcgg cggcgcgggc agcatcccgg aggaggcgct 300  
gcacactgggtg ctggggtacg tggacgaccc gcgggacagg gaggcggtgt cgctcggtg 360  
ccgcgcgtgg caccgcacg acgcgcacgc gtcaccgtgc cttctgtcta 420  
cgccgcgtcg cccgcgcacc tgctcgccg gttcccgccg ctggagtgc tcgcggtaa 480  
ggggaaagccg cgccgcgcga tgtacgggct catcccgag gactggggcg cctacgcgcg 540  
ccctgggtc gccgagctcg ccgcgcgcgt cgagtgcctc aaggcgctcc acctgcgcgc 600  
catggctgtc accgacgacg acctcgccgc gtcgtccgc gcccgcggcc acatgctgca 660  
ggagctcaag ctgcacaagt gtcggcgtt ctccaccgac gctctccgcc tcgtcgcccc 720  
ctcctgcaga tcactgagaa cattatttct ggaggaatgc tcaattgtcg ataatggta 780  
tgaatggctc cagcacattg ctgtcaacaa tcctgttctg gagacattga acttccacat 840  
gaccgaactc acagtgggtc cagctgaccc ggagcttctc gcaaagaagt gcaagtcaact 900  
aatttcattt aagatcagtg actgtgactt ttcaagattt attgatttt tccggatggc 960  
tgcatcattt caagagttt cgggaggggc attcatttag caaggggagc tcactaagta 1020  
tggaaatgtt aaattccctt caagactgtg ctccttaga cttacgtaca tggggacaaa 1080  
cgagatgccc attatcttcc ctttctctgc attactcaag aagctggact tgcagtacac 1140  
ttttctcacc actgaagatc actgccaact cattgcaaaa tgtcccaact tactagtct 1200  
tgcggtgagg aatgtgattt gagatagagg attaggggtt gttcagaca catgcaagaa 1260  
gctacaaaga ctcagagttg agcgaggaga tggatgatcca ggttgcaag aagaacaagg 1320  
aggagtctct caagtcgggt tgacaactgt agccgttagga tgccgtgaac tggaatacat 1380

agctgcctat gtgtctgata tcacaaatgg ggccctggag tctattggga ctttctgcaa 1440  
 aaatcttgc gacttccgtc ttgtccact cgatagagaa gagaggataa cagattgcc 1500  
 cttagacaat ggtgtccgtg cactgctgag gggctgcacg aaacttcgga gtttgctct 1560  
 atacttgaga ccagggggac tttcagatac aggccctggc tatattggac agtacagttg 1620  
 aattatccaa tacatgcttc tggtaatgt tggggaaaca gatgatggc tcatccgggt 1680  
 tgcattgggg tggagaacc tgcggaaagct tggtaagg agttgttgc tcaatgagca 1740  
 agcttagcc cgcgtatac ggagttgccc ttccctgaga tacgtgtggg tacagggtca 1800  
 caaggctct aagactggc acgatctcat gctcatggcc aggcccttct ggaacataga 1860  
 gtttacacct cccagttctg agaatgcaaa tcgaatgaga gaagatggg aaccttgggt 1920  
 agatagtc aactcgatatac ttgcataacta ctccctggcc gggaaagaggt cggactgccc 1980  
 acgatctgt gttccttgc atcctgcgtg actgtaaata ccgatatggg atctctctgc 2040  
 ttcgttctg cctcttgcct ttttgggtg atatgttgc atgtggttat tttatgggtc 2100  
 tagaactcta gatggcttagc tgctatgtac sgtataaagc tactggtagc tgagatgtac 2160  
 tggaaataagc acttctattt cccactctaa aaaaaaaaaaaa aaaaactcgg gcacgagggg 2220  
 gggcccgta cccaaattcgc 2240

<210> 20  
 <211> 597  
 <212> PRT  
 <213> *Oryza sativa*

<400> 20  
 Met Gly Gly Glu Ala Pro Glu Ala Arg Arg Leu Asp Arg Ala Met Ser  
 1 5 10 15  
  
 Phe Gly Gly Ala Gly Ser Ile Pro Glu Glu Ala Leu His Leu Val Leu  
 20 25 30  
  
 Gly Tyr Val Asp Asp Pro Arg Asp Arg Glu Ala Val Ser Leu Val Cys  
 35 40 45  
  
 Arg Arg Trp His Arg Ile Asp Ala Leu Thr Arg Lys His Val Thr Val  
 50 55 60  
  
 Pro Phe Cys Tyr Ala Ala Ser Pro Ala His Leu Leu Ala Arg Phe Pro  
 65 70 75 80  
  
 Arg Leu Glu Ser Leu Ala Val Lys Gly Lys Pro Arg Ala Ala Met Tyr  
 85 90 95  
  
 Gly Leu Ile Pro Glu Asp Trp Gly Ala Tyr Ala Arg Pro Trp Val Ala  
 100 105 110  
  
 Glu Leu Ala Ala Pro Leu Glu Cys Leu Lys Ala Leu His Leu Arg Arg  
 115 120 125  
  
 Met Val Val Thr Asp Asp Asp Leu Ala Ala Leu Val Arg Ala Arg Gly  
 130 135 140  
  
 His Met Leu Gln Glu Leu Lys Leu Asp Lys Cys Ser Gly Phe Ser Thr  
 145 150 155 160  
  
 Asp Ala Leu Arg Leu Val Ala Arg Ser Cys Arg Ser Leu Arg Thr Leu  
 165 170 175  
  
 Phe Leu Glu Glu Cys Ser Ile Ala Asp Asn Gly Thr Glu Trp Leu His  
 180 185 190  
  
 Asp Leu Ala Val Asn Asn Pro Val Leu Glu Thr Leu Asn Phe His Met  
 195 200 205

Thr Glu Leu Thr Val Val Pro Ala Asp Leu Glu Leu Leu Ala Lys Lys  
210 215 220

Cys Lys Ser Leu Ile Ser Leu Lys Ile Ser Asp Cys Asp Phe Ser Asp  
225 230 235 240

Leu Ile Gly Phe Phe Arg Met Ala Ala Ser Leu Gln Glu Phe Ala Gly  
245 250 255

Gly Ala Phe Ile Glu Gln Gly Glu Leu Thr Lys Tyr Gly Asn Val Lys  
260 265 270

Phe Pro Ser Arg Leu Cys Ser Leu Gly Leu Thr Tyr Met Gly Thr Asn  
275 280 285

Glu Met Pro Ile Ile Phe Pro Phe Ser Ala Leu Leu Lys Lys Leu Asp  
290 295 300

Leu Gln Tyr Thr Phe Leu Thr Thr Glu Asp His Cys Gln Leu Ile Ala  
305 310 315 320

Lys Cys Pro Asn Leu Leu Val Leu Ala Val Arg Asn Val Ile Gly Asp  
325 330 335

Arg Gly Leu Gly Val Val Ala Asp Thr Cys Lys Lys Leu Gln Arg Leu  
340 345 350

Arg Val Glu Arg Gly Asp Asp Asp Pro Gly Leu Gln Glu Glu Gln Gly  
355 360 365

Gly Val Ser Gln Val Gly Leu Thr Thr Val Ala Val Gly Cys Arg Glu  
370 375 380

Leu Glu Tyr Ile Ala Ala Tyr Val Ser Asp Ile Thr Asn Gly Ala Leu  
385 390 395 400

Glu Ser Ile Gly Thr Phe Cys Lys Asn Leu Cys Asp Phe Arg Leu Val  
405 410 415

Leu Leu Asp Arg Glu Glu Arg Ile Thr Asp Leu Pro Leu Asp Asn Gly  
420 425 430

Val Arg Ala Leu Leu Arg Gly Cys Thr Lys Leu Arg Arg Phe Ala Leu  
435 440 445

Tyr Leu Arg Pro Gly Gly Leu Ser Asp Thr Gly Leu Gly Tyr Ile Gly  
450 455 460

Gln Tyr Ser Gly Ile Ile Gln Tyr Met Leu Leu Gly Asn Val Gly Glu  
465 470 475 480

Thr Asp Asp Gly Leu Ile Arg Phe Ala Leu Gly Cys Glu Asn Leu Arg  
485 490 495

Lys Leu Glu Leu Arg Ser Cys Cys Phe Ser Glu Gln Ala Leu Ala Arg  
500 505 510

Ala Ile Arg Ser Met Pro Ser Leu Arg Tyr Val Trp Val Gln Gly Tyr  
515 520 525

Lys Ala Ser Lys Thr Gly His Asp Leu Met Leu Met Ala Arg Pro Phe  
530 535 540

Trp Asn Ile Glu Phe Thr Pro Pro Ser Ser Glu Asn Ala Asn Arg Met  
545 550 555 560

Arg Glu Asp Gly Glu Pro Cys Val Asp Ser Gln Ala Gln Ile Leu Ala  
565 570 575

Tyr Tyr Ser Leu Ala Gly Lys Arg Ser Asp Cys Pro Arg Ser Val Val  
                  580                 585                 590

Pro Leu Tyr Pro Ala  
595

<210> 21  
<211> 2288  
<212> DNA  
<213> Glycine max

<400> 21	gcacgaggcc	acacgttaca	cagggcgacta	tgggtgcgg	aaacaaaatcc	ggatggaaa	60
gggtgtatgt	agctgttct	aggatgaata	ttgtgataac	agaacggcgt	ttgaagcagt	120	
gacgtgttac	atcagtagat	cacatcacat	cacgtaataa	taggtataaa	gctcgaaaa	180	
agttttgtcg	tttcacaccc	atctgttgg	ccctaccatt	tcctcaactca	tcatccccat	240	
aaccattcc	cctttgcca	cttgaaccaa	aacctctgca	cctttcttt	tcactctcag	300	
tctccgatcc	aatatgacgg	aggaacggaa	cgtcggaag	acacgtgtgg	tcgacgtgtt	360	
cctcgactgc	gtcatccctt	acatcgacga	ccccaggac	cgcgacgccc	tttcccagg	420	
gtgtcgacgc	tggtacgagc	tcgactcgct	caccgcgaag	cacgtcacca	tcgcgctctg	480	
ctacaccacc	accccggtct	gcctccgccc	ccgcttccc	cacctcgagt	cgctcaagct	540	
caagggcaag	ccccgagccg	caatgttcaa	cttgataacc	gaggattggg	gcccacacgt	600	
cactccctgg	gtcaaagaga	tttctcagta	cttcgattgc	ctcaagagcc	tccacttccg	660	
ccgcatgatt	gtcaaggatt	ccgatcttca	gaatctcgct	cgtgaccgcg	gtcacgtgt	720	
tcacgcctc	aagcttgaca	agtgtccgg	tttcaccacc	gatggtcttt	tccatatcg	780	
tcgctttgc	aagagtttaa	gagttttgtt	tttggaggaa	agctcaattc	ttgagaagga	840	
cgggagaatgg	ctacacgagc	ttgttggaa	taatacagtt	cttgagactc	tcaattttta	900	
cttgacagac	attgtgttg	tgaagattga	ggaccttggaa	cttttagct	aaaattggcc	960	
caacttagtg	tctgtgaaac	ttactgactg	tgaataactg	gatcttgtga	acttctttaa	1020	
gcatgcctct	gcgctggaa	agttttgtgg	aggcacctac	aacgaggaac	cagaaagata	1080	
ctctgtata	tcattaccag	caaagttatg	tcgattgggt	ttaacatata	ttggaaagaa	1140	
tgagttgccc	attgtgttca	tgttgcagc	cgtactaaaa	aaattggatc	tcctctatgc	1200	
aatgcttagac	acggaggatc	attgtatgtt	aatccaaagg	tgtccaaatc	ttgaaagtct	1260	
tgagacaagg	aatgtaaatg	gagatagagg	gttagaggtt	cttggtcgtt	gttgtaaagag	1320	
gctaaaaagg	cttaggatg	aaaggggcga	tgtatgatcaa	ggaatggagg	atgaagaagg	1380	
tactgtgtcc	catagagggc	taatagcctt	gtcacagggc	tgttcagagc	ttgaatacat	1440	
ggctgtttat	gtgtctgata	ttacaaatgc	atctctggaa	catattggaa	ctcaacttga	1500	
gaacctctgt	gattttcgcc	ttgtgttgct	tgaccatgaa	gagaagataa	ctgatttgcc	1560	
acttgacaat	ggggtgaggg	ctctactgag	gggctgtgac	aagctgagga	gatttgcct	1620	
atatctcagg	cgtggcggtt	tgactgtatgt	aggccttgggt	tacattggac	aatacagtcc	1680	
aaatgtgaga	tggtatgtc	ttgggttatgt	gggggagtc	gatgcagggc	ttttggagtt	1740	
cgctaagggg	tgtcttagtc	ttcagaaaact	tgaatagaga	gggtgtttat	ttttcagtga	1800	
acgtgcactt	gctgtggctg	caacacaatt	gacttcttct	agttacttgt	gggtgcaagg	1860	
ttatggtga	tctccatctg	gacgtgatct	tttggtaatg	gctcgaccct	tttggaaacat	1920	
tgagttgatt	ccttctagaa	aggtggctac	gaataccaaat	ccagatgaga	ctgttagttgt	1980	
tgagcatct	gctcatattc	ttgcatattt	ttctcttgca	ggcagagat	cagatttcc	2040	
agatactgtt	gtgcctttgg	acactgccac	atgcgttgat	acctagaggc	cagagctgtg	2100	
tatataacc	agttttcttt	tggttttctt	ctcccccttc	atatgtgtt	tctatgttcc	2160	
tgctcttattt	gtagttcatt	ttagacaatt	agtcttgtaa	taagctgtgt	ttttcatttg	2220	
aaattctqaa	acgcttcccc	taacgctatt	ggctccctta	aaaactgaac	attctcaatt	2280	

ttgtgaat

2288

<210> 22

<211> 606

<212> PRT

<213> Glycine max

<400> 22

Thr Lys Thr Ser Ala Pro Phe Leu Phe Thr Leu Ser Leu Arg Ser Asn  
1 5 10 15

Met Thr Glu Glu Arg Asn Val Arg Lys Thr Arg Val Val Asp Val Val  
20 25 30

Leu Asp Cys Val Ile Pro Tyr Ile Asp Asp Pro Lys Asp Arg Asp Ala  
35 40 45

Val Ser Gln Val Cys Arg Arg Trp Tyr Glu Leu Asp Ser Leu Thr Arg  
50 55 60

Lys His Val Thr Ile Ala Leu Cys Tyr Thr Thr Pro Ala Arg Leu  
65 70 75 80

Arg Arg Arg Phe Pro His Leu Glu Ser Leu Lys Leu Lys Gly Lys Pro  
85 90 95

Arg Ala Ala Met Phe Asn Leu Ile Pro Glu Asp Trp Gly Gly His Val  
100 105 110

Thr Pro Trp Val Lys Glu Ile Ser Gln Tyr Phe Asp Cys Leu Lys Ser  
115 120 125

Leu His Phe Arg Arg Met Ile Val Lys Asp Ser Asp Leu Gln Asn Leu  
130 135 140

Ala Arg Asp Arg Gly His Val Leu His Ala Leu Lys Leu Asp Lys Cys  
145 150 155 160

Ser Gly Phe Thr Thr Asp Gly Leu Phe His Ile Gly Arg Phe Cys Lys  
165 170 175

Ser Leu Arg Val Leu Phe Leu Glu Glu Ser Ser Ile Leu Glu Lys Asp  
180 185 190

Gly Glu Trp Leu His Glu Leu Ala Leu Asn Asn Thr Val Leu Glu Thr  
195 200 205

Leu Asn Phe Tyr Leu Thr Asp Ile Ala Val Val Lys Ile Glu Asp Leu  
210 215 220

Glu Leu Leu Ala Lys Asn Cys Pro Asn Leu Val Ser Val Lys Leu Thr  
225 230 235 240

Asp Cys Glu Ile Leu Asp Leu Val Asn Phe Phe Lys His Ala Ser Ala  
245 250 255

Leu Glu Glu Phe Cys Gly Gly Thr Tyr Asn Glu Glu Pro Glu Arg Tyr  
260 265 270

Ser Ala Ile Ser Leu Pro Ala Lys Leu Cys Arg Leu Gly Leu Thr Tyr  
275 280 285

Ile Gly Lys Asn Glu Leu Pro Ile Val Phe Met Phe Ala Ala Val Leu  
290 295 300

Lys Lys Leu Asp Leu Leu Tyr Ala Met Leu Asp Thr Glu Asp His Cys  
305 310 315 320

Met Leu Ile Gln Arg Cys Pro Asn Leu Glu Val Leu Glu Thr Arg Asn  
325 330 335

Val Ile Gly Asp Arg Gly Leu Glu Val Leu Gly Arg Cys Cys Lys Arg  
340 345 350

Leu Lys Arg Leu Arg Ile Glu Arg Gly Asp Asp Asp Gln Gly Met Glu  
355 360 365

Asp Glu Glu Gly Thr Val Ser His Arg Gly Leu Ile Ala Leu Ser Gln  
370 375 380

Gly Cys Ser Glu Leu Glu Tyr Met Ala Val Tyr Val Ser Asp Ile Thr  
385 390 395 400

Asn Ala Ser Leu Glu His Ile Gly Thr His Leu Lys Asn Leu Cys Asp  
405 410 415

Phe Arg Leu Val Leu Leu Asp His Glu Glu Lys Ile Thr Asp Leu Pro  
420 425 430

Leu Asp Asn Gly Val Arg Ala Leu Leu Arg Gly Cys Asp Lys Leu Arg  
435 440 445

Arg Phe Ala Leu Tyr Leu Arg Arg Gly Gly Leu Thr Asp Val Gly Leu  
450 455 460

Gly Tyr Ile Gly Gln Tyr Ser Pro Asn Val Arg Trp Met Leu Leu Gly  
465 470 475 480

Tyr Val Gly Glu Ser Asp Ala Gly Leu Leu Glu Phe Ala Lys Gly Cys  
485 490 495

Pro Ser Leu Gln Lys Leu Glu Met Arg Gly Cys Leu Phe Phe Ser Glu  
500 505 510

Arg Ala Leu Ala Val Ala Ala Thr Gln Leu Thr Ser Leu Arg Tyr Leu  
515 520 525

Trp Val Gln Gly Tyr Gly Val Ser Pro Ser Gly Arg Asp Leu Leu Val  
530 535 540

Met Ala Arg Pro Phe Trp Asn Ile Glu Leu Ile Pro Ser Arg Lys Val  
545 550 555 560

Ala Thr Asn Thr Asn Pro Asp Glu Thr Val Val Val Glu His Pro Ala  
565 570 575

His Ile Leu Ala Tyr Tyr Ser Leu Ala Gly Gln Arg Ser Asp Phe Pro  
580 585 590

Asp Thr Val Val Pro Leu Asp Thr Ala Thr Cys Val Asp Thr  
595 600 605

<210> 23  
<211> 577  
<212> DNA  
<213> Triticum aestivum

<220>  
<221> unsure  
<222> (296)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (409)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (415)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (452)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (495)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (546)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (549)  
<223> n = A, T, C, or G

<400> 23  
gaactttgtt cctggaagaa tgtataattg ccgatgaagg gagcgaatgg ctccatgaac 60  
tcgcgtcaa caattctgtt ctggtgacac tgaacttcta catgacagaaa ctcaaagtgg 120  
agcctgccga tctggagctt cttgcaagga actgtaaatc attgatttct ctgaagatga 180  
gtgactgcga tctttcgat ttgattgggtt ttctccaaac ctccaaggca ctgcaagaat 240  
ccgctgggag ggcgtttttt cgaagtcgga gagtacacca agtacgaaaa ggcaantccc 300  
acctagctat gctcctgggg gggctcacct tcatgggtaa aaacgaatcc cgttactttc 360  
cgtatccgcg tcgcttaaaa actggacctg catacaccc ctcacaacng aaatnacgtc 420  
acttaacgcg aaagcccaac ctacgggtct cnagggggc cggtaccaat cgccctatat 480  
gatcctatac cgcgncacgg gcgtccctta cactctgacg ggaaactggg taccactaac 540  
cctganaanc cttccactg gtatacaaag gccgacg 577

<210> 24  
<211> 159  
<212> PRT  
<213> Triticum aestivum

<220>  
<221> UNSURE  
<222> (98)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (136)  
<223> Xaa = any amino acid

<220>  
<221> UNSURE  
<222> (138)  
<223> Xaa = any amino acid

<400> 24  
Thr Leu Phe Leu Glu Glu Cys Ile Ile Ala Asp Glu Gly Ser Glu Trp  
1 5 10 15

Leu His Glu Leu Ala Val Asn Asn Ser Val Leu Val Thr Leu Asn Phe  
20 25 30

Tyr Met Thr Glu Leu Lys Val Glu Pro Ala Asp Leu Glu Leu Leu Ala  
35 40 45

Arg Asn Cys Lys Ser Leu Ile Ser Leu Lys Met Ser Asp Cys Asp Leu  
50 55 60

Ser Asp Leu Ile Gly Phe Leu Gln Thr Ser Lys Ala Leu Gln Glu Ser  
65 70 75 80

Ala Gly Arg Arg Phe Phe Arg Ser Arg Arg Val His Gln Val Arg Lys  
85 90 95

Gly Xaa Ser His Leu Ala Met Leu Leu Gly Gly Pro Thr Phe Met Gly  
100 105 110

Lys Asn Glu Ser Arg Tyr Phe Pro Tyr Pro Arg Arg Leu Lys Thr Gly  
115 120 125

Pro Ala Tyr Thr Ser Ser Gln Xaa Lys Xaa Arg His Leu Thr Leu Lys  
130 135 140

Pro Asn Leu Arg Val Ser Arg Gly Ala Gly Thr Asn Arg Pro Ile  
145 150 155

<210> 25  
<211> 486  
<212> DNA  
<213> Triticum aestivum

<220>  
<221> unsure  
<222> (197)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (275)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (289)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (298)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (334)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (346)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (399)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (441)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (463)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (466)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (470)  
<223> n = A, T, C, or G

<400> 25  
cgggaaagggg gggaaatcaat ccccatgccc ccacccctcg ccggaccaga tccccggcgg 60  
gccccgcgg agccttaggc gggatggc ggggaggccc cggagcccg gcggctgagc 120  
cgccgcgtca gcctggacgg cggcggcgtc ccggaggagg cgctgcacct ggtgctcgcc 180  
tacgtggacg acccgcnca gcgcgaggcg gcctcgctgg cgtgccgccc ctggcaccac 240  
atcgacgcgc tcacgcggaa gcacgtcacc gtgcncttct gctacgcgcng tgcgtccngc 300  
gcgcctgctc gcgcgttcc cgcgcctcga gtcnctcgaa gtcaanggca agcccgcc 360  
gccatgtacg gtcatcccc gacgactggg ggcgcatacnc ccggccctg cgtccctgag 420  
ctcgccgccc cgctcgattt nctcaaggcg gctcaacctt gcncncaan gtcgtcaccg 480  
acgaca 486

<210> 26  
<211> 134  
<212> PRT

<213> Triticum aestivum

<220>

<221> UNSURE

<222> (38)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (64)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (69)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (72)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (84)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (88)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (119)

<223> Xaa = any amino acid

<220>

<221> UNSURE

<222> (127)..(128)..(129)

<223> Xaa = any amino acid

<400> 26

Met Gly Gly Glu Ala Pro Glu Pro Arg Arg Leu Ser Arg Ala Leu Ser  
1 5 10 15

Leu Asp Gly Gly Val Pro Glu Glu Ala Leu His Leu Val Leu Gly  
20 25 30

Tyr Val Asp Asp Pro Xaa Asp Arg Glu Ala Ala Ser Leu Ala Cys Arg  
35 40 45

Arg Trp His His Ile Asp Ala Leu Thr Arg Lys His Val Thr Val Xaa  
50 55 60

Phe Cys Tyr Ala Xaa Val Pro Xaa Ala Pro Ala Arg Ala Leu Pro Ala  
65 70 75 80

Pro Arg Val Xaa Arg Gly Gln Xaa Gln Ala Arg Ala Ala Met Tyr Gly  
85 90 95

Ser Ser Pro Thr Thr Gly Ala Pro Thr Pro Gly Pro Cys Val Pro Glu  
 100 105 110

Leu Ala Ala Pro Leu Asp Xaa Leu Lys Ala Ala Gln Pro Cys Xaa Xaa  
 115 120 125

Xaa Ser Ser Pro Thr Thr  
 130

<210> 27  
 <211> 1074  
 <212> DNA  
 <213> Triticum aestivum

<400> 27

gcacgaggta	ggattgatgg	ctgttagctga	aggctgtcct	gatttggagt	actgggcagt	60
acatgtgtct	gacattacaa	atgcagctct	tgaggctatt	ggcgcattca	gcaaaaacct	120
gaacgatttc	cgacttgtcc	tgcttgatag	agaggtgcatt	ataactgaac	tgccccttga	180
caacggggtt	cgggcttgc	tgagaggttg	caccaaactc	cggaggtttgc	cattttatgt	240
gagaccttgg	gctctatcag	atattggcct	ttcttatgtt	ggcgaattta	gcaagaccgt	300
cccttacatg	ttgcttggga	atgcccgggg	gtctgatgat	ggactgctgg	catttgcacg	360
aggatgccc	agcttgccaga	aattggagct	aaggagttgc	tgctttatgt	aacgtgcatt	420
ggcagttgca	gccttacagc	tgaagtcaact	cagatatctt	tgggtgcagg	gataacaaggc	480
atctcctact	ggcaccgatc	tcatggcaat	ggtacgcccc	ttcttggaaaca	tttagtttat	540
tgcaccaa	caagatgagc	cttgcggcaga	gggtcaggca	cagattctgg	cataactactc	600
tctggctggg	gcaaggacag	attgtcctca	gtcagtaatt	cccttccatc	cgtcagtgccc	660
aagctaaaaa	gaccaccacc	agtttactg	tacatacatg	ttttagtgc	gcaaaaaccca	720
caatgcggta	tagggacatt	ccaccttaca	gtgccaattta	cgggactgaa	agctcaagta	780
aaagcgaccc	actctgaact	gccttggtat	cttagggca	acatttttgg	gtaagctgtt	840
catctggcca	acatggatat	ctttagtgc	tacaccattt	tgacatggct	cggacacgc	900
tttttgaat	aatgtgccc	gtttagtgc	cattttctg	ttctttagtgc	ttggccactg	960
tattgttgtt	ctacaaacag	tattggatta	gtttagtgc	catctgtgaa	acaatctgca	1020
caatgtttag	tttaaccat	gaatatcttgc	aaaaaaaaaa	aaaaaaaaaa	aaaa	1074

<210> 28  
 <211> 221  
 <212> PRT  
 <213> Triticum aestivum

<400> 28

His	Glu	Val	Gly	Leu	Met	Ala	Val	Ala	Glu	Gly	Cys	Pro	Asp	Leu	Glu	
1							5							10		15

Tyr Trp Ala Val His Val Ser Asp Ile Thr Asn Ala Ala Leu Glu Ala  
 20 25 30

Ile Gly Ala Phe Ser Lys Asn Leu Asn Asp Phe Arg Leu Val Leu Leu  
 35 40 45

Asp Arg Glu Val His Ile Thr Glu Leu Pro Leu Asp Asn Gly Val Arg  
 50 55 60

Ala Leu Leu Arg Gly Cys Thr Lys Leu Arg Arg Phe Ala Phe Tyr Val  
 65 70 75 80

Arg Pro Gly Ala Leu Ser Asp Ile Gly Leu Ser Tyr Val Gly Glu Phe  
 85 90 95

Ser Lys Thr Val Arg Tyr Met Leu Leu Gly Asn Ala Gly Gly Ser Asp  
           100                 105                 110

Asp Gly Leu Leu Ala Phe Ala Arg Gly Cys Pro Ser Leu Gln Lys Leu  
115 120 125

Glu Leu Arg Ser Cys Cys Phe Ser Glu Arg Ala Leu Ala Val Ala Ala  
130 135 140

Leu Gln Leu Lys Ser Leu Arg Tyr Leu Trp Val Gln Gly Tyr Lys Ala  
145 150 155 160

Ser Pro Thr Gly Thr Asp Leu Met Ala Met Val Arg Pro Phe Trp Asn  
                   165                  170                  175

Ile Glu Phe Ile Ala Pro Asn Gln Asp Glu Pro Cys Pro Glu Gly Gln  
 180 185 190

Ala Gln Ile Leu Ala Tyr Tyr Ser Leu Ala Gly Ala Arg Thr Asp Cys  
195 200 205

<210> 29

<211> 1812

<212> DNA

<213> *Oryza sativa*

<220>

<221> unsure

<222> (1108)

<223> n = A, T, C, or G

<400> 29

ccccccgggt	gcaggaattc	ggcacgaggt	cacgcaacca	cgactcttc	ctccacccctc	600
gtttcctact	cttttcttca	gttttcttacc	tctccgcacg	agaaaaattcg	aatccccctt	1200
ccggctgtcg	gttttctgtgc	cagaaacagg	cgattttacc	agtgcctgtt	agctctcgcc	1800
ttectcttcc	tccatctgtc	tactactctg	ttcttcttgg	agaacactgg	tctctcgcc	2400
tacctcagtc	accactcacc	acaccagggt	cgagctataa	aaaccggcac	gcacaaaatc	3000
ttcaaaaacca	cacagaaaacc	tcagatctcc	gaggcttcca	agcgagtcga	cgaaaatgcc	3600
cgtgatggct	ccgaccgcatt	ctcttcttct	ctccccggagg	ccgctgcccgg	cgagccgcgg	4200
ggtcccctcg	ctcccgccgc	tctcgggttc	cggtcgccctg	cgccctccgccc	gcgcccgcgc	4800
cgacacacgg	ctcccggtgg	cgccggccgc	gtccgtcccc	ggggaggcgg	accaggcgcc	5400
cgggggagacc	gagccgagca	cgtcgctggc	cgacgagaag	ttcgtgtgg	gggaccactg	6000
gtacccctgt	tccctctgtc	aggacctcga	ccccagctgt	cccacccctgt	tccagctctt	6600
caaccggcgcac	ctcgcatct	ggaaggaccc	aaaatccggc	gagtgggtcg	ccctcgacga	7200
ccgttggccc	catcgccctcg	cgccctctc	ggagggggcgg	atcgatgaga	cggggtgctt	7800
gcagtgtctca	taccacggct	ggtcattcga	tggctccggc	gcgtgcaccc	ggatcccgca	8400
ggcggccccc	gagggggccgg	aggccaaggc	tgtgaggtcg	ccgaaggcgt	gcgcgatcaa	9000
gttccccacc	ctcgctctcg	aagggtgtct	cttcgtgtgg	cccgacgaga	atgggtggga	9600
gaaggccacg	gttaccaagc	ctccgatgtt	accgaaggag	tttgaggatc	ctgcgttctc	10200
cacggtgacc	atccagaggg	atctgtacta	tggctatgtat	acattgtatgg	agaacgtctc	10800
tgatccgtcg	catatagaat	ttgctcanca	caaggtcact	ggtcgaagaa	atcgagccag	11400
gcctttgcca	ttcaagatgg	aatcaagtgg	tgcattggga	tattcagggt	caaattctgg	12000
aaacccttcgc	atcagtgc当地	cttttggc	cccttgctat	gcactgaaca	aaatttagat	12600
agacacaag	ttaccattt	ttggagatca	gaaatgggtc	atatggattt	gctctttcaa	13200
cattccaatg	gccccaggg	agactcggtc	tatagttgt	agtgcctcgga	acttttcca	13800
gtttagcatg	ccaggaaaag	catggtggca	gcttgcctt	cgatggatag	agcattggac	14400
ttcaatttg	gtctatgtat	gtgatatgtat	agttctgcaa	gggcaagaga	agattttctt	15000

gtctgcacatcg aaggagtc tt ctgcagatat taatcagcag tacacaaaga tcacgtttac 1560  
acccacgcag gctgaccgtt ttgtttggc atccggca tggctaagga aatttggtaa 1620  
cagccaaacct gactggttg gaaatcttag ccaagaagtg ttgccttcca ctgtccttcc 1680  
aaagcgtgag atgctagata gatatgagca gcacacactg aaatgctcat cttgcaaagg 1740  
ggcatacaac gccttccaga ctctgcaaaa ggtcttcatg ggagcgcacag tggccgttct 1800  
attattgctt gc 1812

<210> 30  
<211> 485  
<212> PRT  
<213> Oryza sativa

<220>  
<221> UNSURE  
<222> (251)  
<223> Xaa = any amino acid

<400> 30  
Met Pro Val Met Ala Pro Thr Ala Ser Leu Leu Leu Ser Pro Arg Pro  
1 5 10 15  
Leu Pro Ala Ser Arg Arg Val Pro Ser Leu Pro Ala Leu Ser Ala Ser  
20 25 30  
Gly Arg Leu Arg Leu Arg Arg Ala Arg Ala Asp Thr Arg Leu Arg Val  
35 40 45  
Ala Ala Pro Pro Ser Val Pro Gly Glu Ala Asp Gln Ala Pro Gly Glu  
50 55 60  
Thr Glu Pro Ser Thr Ser Ser Ala Asp Glu Lys Phe Val Trp Arg Asp  
65 70 75 80  
His Trp Tyr Pro Val Ser Leu Val Glu Asp Leu Asp Pro Ser Val Pro  
85 90 95  
Thr Pro Phe Gln Leu Leu Asn Arg Asp Leu Val Ile Trp Lys Asp Pro  
100 105 110  
Lys Ser Gly Glu Trp Val Ala Leu Asp Asp Arg Cys Pro His Arg Leu  
115 120 125  
Ala Pro Leu Ser Glu Gly Arg Ile Asp Glu Thr Gly Cys Leu Gln Cys  
130 135 140  
Ser Tyr His Gly Trp Ser Phe Asp Gly Ser Gly Ala Cys Thr Arg Ile  
145 150 155 160  
Pro Gln Ala Ala Pro Glu Gly Pro Glu Ala Lys Ala Val Arg Ser Pro  
165 170 175  
Lys Ala Cys Ala Ile Lys Phe Pro Thr Leu Val Ser Gln Gly Leu Leu  
180 185 190  
Phe Val Trp Pro Asp Glu Asn Gly Trp Glu Lys Ala Thr Ala Thr Lys  
195 200 205  
Pro Pro Met Leu Pro Lys Glu Phe Glu Asp Pro Ala Phe Ser Thr Val  
210 215 220

Thr Ile Gln Arg Asp Leu Tyr Tyr Gly Tyr Asp Thr Leu Met Glu Asn  
 225 230 235 240

Val Ser Asp Pro Ser His Ile Glu Phe Ala Xaa His Lys Val Thr Gly  
 245 250 255

Arg Arg Asp Arg Ala Arg Pro Leu Pro Phe Lys Met Glu Ser Ser Gly  
 260 265 270

Ala Trp Gly Tyr Ser Gly Ser Asn Ser Gly Asn Pro Arg Ile Ser Ala  
 275 280 285

Thr Phe Val Ala Pro Cys Tyr Ala Leu Asn Lys Ile Glu Ile Asp Thr  
 290 295 300

Lys Leu Pro Ile Phe Gly Asp Gln Lys Trp Val Ile Trp Ile Cys Ser  
 305 310 315 320

Phe Asn Ile Pro Met Ala Pro Gly Lys Thr Arg Ser Ile Val Cys Ser  
 325 330 335

Ala Arg Asn Phe Phe Gln Phe Ser Met Pro Gly Lys Ala Trp Trp Gln  
 340 345 350

Leu Val Pro Arg Trp Tyr Glu His Trp Thr Ser Asn Leu Val Tyr Asp  
 355 360 365

Gly Asp Met Ile Val Leu Gln Gly Gln Glu Lys Ile Phe Leu Ser Ala  
 370 375 380

Ser Lys Glu Ser Ser Ala Asp Ile Asn Gln Gln Tyr Thr Lys Ile Thr  
 385 390 395 400

Phe Thr Pro Thr Gln Ala Asp Arg Phe Val Leu Ala Phe Arg Ala Trp  
 405 410 415

Leu Arg Lys Phe Gly Asn Ser Gln Pro Asp Trp Phe Gly Asn Pro Ser  
 420 425 430

Gln Glu Val Leu Pro Ser Thr Val Leu Ser Lys Arg Glu Met Leu Asp  
 435 440 445

Arg Tyr Glu Gln His Thr Leu Lys Cys Ser Ser Cys Lys Gly Ala Tyr  
 450 455 460

Asn Ala Phe Gln Thr Leu Gln Lys Val Phe Met Gly Ala Thr Val Ala  
 465 470 475 480

Val Leu Leu Leu Leu  
 485

<210> 31  
 <211> 1930  
 <212> DNA  
 <213> Glycine max

<400> 31  
 ggaaagaaag aaacatggaa aacttgcacg actcaactac aatctctttt atgaacacat 60  
 ctcatttggaa cctctataaa caaattttca aaccttaaca ctttacgaaa atcaactaaa 120  
 gaaaaccatt gatggcgctc cttcactcca tctctgcctt agccaccaca cttcacactct 180

cctccccaaat	aaccaaacc	cataaaagtta	acc	cccttcc	ctttcctcg	aaccgaaatt	240
cacaatttt	aacgaaacaa	acgcgaccc	gaagcagaag	aaac	ctctcc	ctaacc	300
cacgcgtgc	ggcc	ccaccc	tcaac	cggtt	aa	gccc	360
ataacgaaac	tgaggaagag	tttagc	gacg	agagctt	ctctaa	attc	420
atca	ctgt	c	ttaatt	gaag	act	tgaa	480
agcttctgg	tcgt	gaaatc	gtg	c	tgt	ccaa	540
ttgatgacaa	atgc	ccccat	cgt	cttgc	ctt	atctg	600
ggaagttgca	gtgtt	c	atgg	gtgtt	gtgtt	gatct	660
ttc	c	tcg	ttcat	ctg	tgg	atctc	720
ccactaggtt	cc	cttac	cc	gtgt	ccagg	ttgt	ctt
gttggagaa	ag	caaagg	cc	tcc	acc	tca	840
agtttccac	gg	tcaac	ata	cag	ctg	act	900
atgtctc	ga	tc	ttc	tct	tat	ttt	960
gagccaaacc	tct	g	ccat	cc	at	gg	1020
atgaagg	cc	ca	cc	at	ttt	gg	1080
ttgagat	tt	cc	at	ttt	ttt	gg	1140
ccttcaatgt	cc	ccat	gg	cc	tc	tc	1200
tcttccagtt	ct	ca	gt	cc	tc	tc	1260
ttgcatt	tt	tt	aa	tc	at	tc	1320
atggactt	aa	ata	aa	at	ttt	at	1380
tcttc	tt	cc	aa	ac	ttt	ttt	1440
tcacac	cc	aa	ac	ttt	tc	tc	1500
gcaatgg	cc	aa	at	ttt	tc	tc	1560
tatcaa	cc	aa	at	ttt	tc	tc	1620
aagcag	tt	gg	ttt	tc	tc	tc	1680
tttgc	tt	tt	tt	tc	tc	tc	1740
cagttgt	cc	ttt	ttt	tc	tc	tc	1800
tggattac	tc	at	ttt	tc	tc	tc	1860
agttgt	tt	tt	aa	tc	tc	tc	1920
aatctac	tt	tt	aa	tc	tc	tc	1930

<210> 32

<211> 563

<212> PRT

<213> Glycine max

<400> 32

Met Ala Leu Pro His Ser Ile Ser Ala Leu Ala Thr Thr Leu Thr Leu

1

5

10

15

Ser Ser Pro Ile Thr Lys Pro His Lys Val Asn Pro Phe Pro Phe Ser  
20 25 30

Ser Asn Arg Asn Ser Gln Phe Leu Thr Lys Gln Thr Arg Pro Arg Ser  
35 40 45

Arg Arg Asn Leu Ser Leu Thr Pro Ala Arg Val Ala Ala Pro Pro Ser  
50 55 60

Thr Val Glu Ala Asp Arg Leu Tyr Pro Glu Ala Glu Asn Asn Glu Thr  
65 70 75 80

Glu Glu Glu Phe Ser Asp Glu Ser Ser Ser Lys Phe Thr Trp Arg Asp  
85 90 95

His Trp Tyr Pro Val Ser Leu Ile Glu Asp Leu Asn Pro Leu Leu Pro  
100 105 110

Thr Pro Phe Gln Leu Leu Gly Arg Glu Ile Val Leu Trp Tyr Asp Lys  
115 120 125

Ser Ile Ser Gln Trp Val Ala Phe Asp Asp Lys Cys Pro His Arg Leu  
130 135 140

Ala Pro Leu Ser Glu Gly Arg Ile Asp Glu Asp Gly Lys Leu Gln Cys  
145 150 155 160

Ser Tyr His Gly Trp Ser Phe Asp Gly Cys Gly Ser Cys Val Lys Ile  
165 170 175

Pro Gln Ala Ser Ser Glu Gly Pro Glu Ala Arg Ala Ile Gly Ser Pro  
180 185 190

Lys Ala Cys Ala Thr Arg Phe Pro Thr Leu Val Ser Gln Gly Leu Leu  
195 200 205

Phe Val Trp Ala Asp Glu Asn Gly Trp Glu Lys Ala Lys Ala Ser Asn  
210 215 220

Pro Pro Met Phe Pro Asp Asp Phe Asp Lys Pro Glu Phe Pro Thr Val  
225 230 235 240

Asn Ile Gln Arg Asp Leu Phe Tyr Gly Tyr Asp Thr Leu Met Glu Asn  
245 250 255

Val Ser Asp Pro Ser His Ile Glu Phe Ala His His Lys Val Thr Gly  
260 265 270

Arg Arg Asp Arg Ala Lys Pro Leu Pro Phe Lys Met Asp Ser Arg Gly  
275 280 285

Ser Trp Gly Phe Ser Gly Ala Asn Glu Gly Asn Pro Gln Ile Ser Ala  
290 295 300

Lys Phe Val Ala Pro Cys Tyr Met Met Asn Lys Ile Glu Ile Asp Thr  
305 310 315 320

Lys Leu Pro Val Val Gly Asp Gln Lys Trp Val Val Trp Ile Cys Ser  
325 330 335

Phe Asn Val Pro Met Ala Pro Gly Lys Thr Arg Ser Ile Val Cys Ser  
340 345 350

Ala Arg Asn Phe Phe Gln Phe Ser Val Pro Gly Pro Ala Trp Trp Gln  
355 360 365

Val Asn Val Ile Leu Leu Phe Ala Phe Asn Phe Lys Gln Cys Ile His  
370 375 380

Val Thr Gln Val Val Pro Arg Trp Tyr Glu His Trp Thr Ser Asn Lys  
385 390 395 400

Val Tyr Asp Gly Asp Met Ile Val Leu Gln Gly Gln Glu Lys Ile Phe  
405 410 415

Leu Ser Glu Thr Lys Glu Gly Gly Asp Ile Asn Lys Gln Tyr Thr Asn  
420 425 430

Ile Thr Phe Thr Pro Thr Gln Ala Asp Arg Phe Val Leu Ala Phe Arg  
435 440 445

Asn Trp Leu Arg Arg His Gly Asn Gly Gln Pro Glu Trp Phe Gly Asn  
450 455 460

Ser Ser Asp Gln Pro Leu Pro Ser Thr Val Leu Ser Lys Arg Gln Met  
465 470 475 480

Leu Asp Arg Phe Glu Gln His Thr Leu Lys Cys Ser Ser Cys Lys Ala  
485 490 495

Ala Tyr Glu Gly Phe Gln Thr Trp Gln Lys Val Leu Ile Gly Ala Thr  
500 505 510

Val Val Phe Cys Ala Thr Ser Gly Ile Pro Ser Asp Phe Gln Leu Arg  
515 520 525

Val Leu Leu Ala Gly Leu Ala Val Val Ser Ala Ala Ile Ala Phe Ala  
530 535 540

Leu Asn Gln Leu Gln Lys Asn Phe Glu Phe Val Asp Tyr Val His Ala  
545 550 555 560

Glu Ile Asp

<210> 33  
<211> 555  
<212> DNA  
<213> *Triticum aestivum*

<220>  
<221> unsure  
<222> (228)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (252)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (354)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (369)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (402)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (412)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (415)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (441)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (460)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (467)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (482)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (504)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (506)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (519)..(520)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (524)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (539)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (541)  
<223> n = A, T, C, or G

<220>  
<221> unsure  
<222> (544)  
<223> n = A, T, C, or G

<220>  
 <221> unsure  
 <222> (555)  
 <223> n = A, T, C, or G

<400> 33  
 tccaccacg ccgtcgatca cccggggc accaccggcg acatggatcc cctccgccta 60  
 ctcctcccc ggcggccaggc ccagccctt cttccgctcc ccaccggcg ccaagcaccg 120  
 agcgtcaggc cccaactcg cccggggcg cgggcgcgc gccaccgcaa cggggcccg 180  
 cggatgctgc cggcctcg cgtggcgatcc gatcgccgt ggacgganca ggagccgcca 240  
 tccggggaga angaggagcg gttcgactgg ctggaccagt ggtacccctt cggcccg 300  
 gaggacctgg acccggcg cccacggcaa atgggtcgatgg gatccgcgtg gtanctggta 360  
 caacgcggng cccggcgatg ggcgtgttca caccgtgccc gnacgcctgg cncgnctcga 420  
 gggcgcatca caaaaaggcg ncagtcgttca cacgggtggn ctcacgnncgc gggctgaatt 480  
 ancccaaggcc cgcctcgca acgnnaaca aaacagggnn gtgnntaacc gtctgtgana 540  
 naanttgtt ctccn 555

<210> 34  
 <211> 144  
 <212> PRT  
 <213> Triticum aestivum

<220>  
 <221> UNSURE  
 <222> (62)  
 <223> Xaa = any amino acid

<220>  
 <221> UNSURE  
 <222> (70)  
 <223> Xaa = any amino acid

<220>  
 <221> UNSURE  
 <222> (104)  
 <223> Xaa = any amino acid

<220>  
 <221> UNSURE  
 <222> (124)..(125)  
 <223> Xaa = any amino acid

<220>  
 <221> UNSURE  
 <222> (140)  
 <223> Xaa = any amino acid

<220>  
 <221> UNSURE  
 <222> (142)  
 <223> Xaa = any amino acid

<400> 34  
 Met Asp Pro Leu Arg Leu Leu Leu Pro Arg Ala Gln Ala Gln Pro Leu  
 1 5 10 15

Leu Pro Leu Pro Thr Gly Val Gln Ala Pro Ser Val Arg Pro Gln Leu  
 20 25 30

Val Pro Arg Arg Arg Ala Arg Arg His Arg Asn Gly Ala Ala Arg Met  
35 40 45

Leu Pro Ala Ser Ala Val Ala Ser Glu Ser Pro Trp Thr Xaa Gln Glu  
50 55 60

Pro Pro Ser Gly Glu Xaa Glu Glu Arg Phe Asp Trp Leu Asp Gln Trp  
65 70 75 80

Tyr Pro Phe Ala Pro Val Glu Asp Leu Asp Pro Ala Arg Pro Arg Gln  
85 90 95

Met Val Leu Gly Ser Ala Trp Xaa Leu Val Gln Arg Gly Ala Gly Glu  
100 105 110

Trp Arg Cys Ser His Arg Ala Arg Thr Pro Gly Xaa Xaa Arg Gly Arg  
115 120 125

Ile Thr Lys Gly Gly Gln Ser Leu His Gly Trp Xaa His Xaa Ala Gly  
130 135 140

<210> 35

<211> 1864

<212> DNA

<213> Triticum aestivum

<400> 35

gcacgaggc aatgttctag aagcaccgaa gcaccgagag ataagtggca ctagtacaaa 60  
gctggagcga ggaagatctc ggccccaaca aaacctcggg ccccttcctt ccacacgatc 120  
ccgaggaagg aaggaaaggg agacgaaaatg cccgtgtctgg cgatgcccgc cgcctccctc 180  
ccccctctt cccccggggc accggccgct gctgcgcccc tcgaccctcc cggcctcccg 240  
tctcggcagc ggcattcctcc gctgtggccgc gcccacgtcg gtcccccggcg aggcggagcg 300  
ggcggaggag ccgagcacga gcacgagcac ctcgcctgaa tcgtccgggg agaagttcg 360  
gtggcgggac cactggtacc cggtctcgct cgtggaggac ctggaccgcgc gctgtccac 420  
cccggtccag ctccctcaacc ggcacccgtt catctggaaac gaccccaact cggcgactg 480  
ggtcgcgttc gacgaccgct gcccgcaccg cctcgccccg ctctcggagg ggcggatcga 540  
cgagacgggc ggcctgcagt gtccttacca cggctggtcc ttgcacggct cggcgctcg 600  
caccaggatc ccgcaggccg cggccgggg gcccggggcc cggccgggtgc gctcgcccg 660  
ggcctgcgcc accaagttcc ccaccctctt ctcccaggcc ctgctttcg tctggctga 720  
cgagaatgga tgggacaagg ccaaggccac caagcctcca atgctgcccga aggagttcga 780  
tgaccgggcc ttctccaccg tgacgatcca gagggacctc ttctatgggt atgacacgtt 840  
gatggagaac gtctctgatc ctcgcataat agaatttgc caccacaagg tcactggacg 900  
aagagataga gccaagcctt tgccattta aatggaaatca aatggaaatca aatggcgcac 960  
aggggcaaat accggcaatc ctcgcataatc tgcaactttc gaggccctt gctatgcact 1020  
gaacaaaata gagattgaca ccaaattacc gattgtggga gatcagaat ggtcatatg 1080  
gatggctcc ttcaacatcc caatggcccc agggaaaact cgttctattt tctgtatgc 1140  
tcgaaacttt ttccagttt caatggccagg aaaggcatgg tggcagtttgc tccctcgatg 1200  
gtacgaacat tggacctaa atttggtcta cgacggcgat atgatcgatc ttcaaggcca 1260  
agagaaggtt ttctctgtctg catccaagga gtcgtctgca gatgttaatc agcagttacac 1320  
aaagctaca ttacacacca cacaggccgaa ccgattttt ttagcattcc gggcatggct 1380  
acgaaaattt gggaaatagcc agcctgactt gatggaaatg cctagccaaatg atgcatttgc 1440  
ttctacggc ctttcaaaatc gagagatgtt agacagatac gagcagccaca cgttgcataatg 1500  
ctcgccctgc agaggagccg acaaggccctt tcagactttt cagaagggtt tcatggggc 1560  
gacgggttggt tttggcgcga catccggat ccctgcggat gttcagctca gatatttgc 1620  
cggtggccgg tgcctggatca ggcggcgtt ggcctatgtc ttctacgacc gccagaagca 1680  
tttcgtgttt gtggactacg tgcacgctga cattgattta tttagggat aaacattatg 1740  
tattttgtt aggtatctggt gtgggtgtggt gtggagacat cccacgatca atcatgtgca 1800  
taacctagcc aaggagtaca tatacgtttc agtgggtaca tgagatttgc ccagttatgtt 1860  
gtttt 1864

<210> 36  
<211> 487  
<212> PRT  
<213> Triticum aestivum

<400> 36  
Leu Arg Val Ala Ala Pro Thr Ser Val Pro Gly Glu Ala Glu Arg Ala  
1 5 10 15  
Glu Glu Pro Ser Thr Ser Thr Ser Pro Glu Ser Ser Gly Glu  
20 25 30  
Lys Phe Val Trp Arg Asp His Trp Tyr Pro Val Ser Leu Val Glu Asp  
35 40 45  
Leu Asp Pro Arg Val Pro Thr Pro Phe Gln Leu Leu Asn Arg Asp Leu  
50 55 60  
Val Ile Trp Asn Asp Pro Asn Ser Gly Asp Trp Val Ala Leu Asp Asp  
65 70 75 80  
Arg Cys Pro His Arg Leu Ala Pro Leu Ser Glu Gly Arg Ile Asp Glu  
85 90 95  
Thr Gly Gly Leu Gln Cys Ser Tyr His Gly Trp Ser Phe Asp Gly Ser  
100 105 110  
Gly Ala Cys Thr Arg Ile Pro Gln Ala Ala Pro Glu Gly Pro Glu Ala  
115 120 125  
Arg Ala Val Arg Ser Pro Arg Ala Cys Ala Thr Lys Phe Pro Thr Leu  
130 135 140  
Leu Ser Gln Gly Leu Leu Phe Val Trp Pro Asp Glu Asn Gly Trp Asp  
145 150 155 160  
Lys Ala Lys Ala Thr Lys Pro Pro Met Leu Pro Lys Glu Phe Asp Asp  
165 170 175  
Pro Ala Phe Ser Thr Val Thr Ile Gln Arg Asp Leu Phe Tyr Gly Tyr  
180 185 190  
Asp Thr Leu Met Glu Asn Val Ser Asp Pro Ser His Ile Glu Phe Ala  
195 200 205  
His His Lys Val Thr Gly Arg Arg Asp Arg Ala Lys Pro Leu Pro Phe  
210 215 220  
Lys Met Glu Ser Ser Gly Ala Trp Gly Tyr Ser Gly Ala Asn Thr Gly  
225 230 235 240  
Asn Pro Arg Ile Thr Ala Thr Phe Glu Ala Pro Cys Tyr Ala Leu Asn  
245 250 255  
Lys Ile Glu Ile Asp Thr Lys Leu Pro Ile Val Gly Asp Gln Lys Trp  
260 265 270  
Val Ile Trp Ile Cys Ser Phe Asn Ile Pro Met Ala Pro Gly Lys Thr  
275 280 285

Arg Ser Ile Val Cys Ser Ala Arg Asn Phe Phe Gln Phe Thr Met Pro  
290 295 300

Gly Lys Ala Trp Trp Gln Phe Val Pro Arg Trp Tyr Glu His Trp Thr  
305 310 315 320

Ser Asn Leu Val Tyr Asp Gly Asp Met Ile Val Leu Gln Gly Gln Glu  
325 330 335

Lys Val Phe Leu Ser Ala Ser Lys Glu Ser Ser Ala Asp Val Asn Gln  
340 345 350

Gln Tyr Thr Lys Leu Thr Phe Thr Pro Thr Gln Ala Asp Arg Phe Val  
355 360 365

Leu Ala Phe Arg Ala Trp Leu Arg Lys Phe Gly Asn Ser Gln Pro Asp  
370 375 380

Trp Tyr Gly Ser Pro Ser Gln Asp Ala Leu Pro Ser Thr Val Leu Ser  
385 390 395 400

Lys Arg Glu Met Leu Asp Arg Tyr Glu Gln His Thr Leu Lys Cys Ser  
405 410 415

Ser Cys Arg Gly Ala His Lys Ala Phe Gln Thr Leu Gln Lys Val Phe  
420 425 430

Met Gly Ala Thr Val Val Phe Gly Ala Thr Ser Gly Ile Pro Ala Asp  
435 440 445

Val Gln Leu Arg Ile Leu Leu Gly Ala Gly Ala Leu Val Ser Ala Ala  
450 455 460

Leu Ala Tyr Val Phe Tyr Asp Arg Gln Lys His Phe Val Phe Val Asp  
465 470 475 480

Tyr Val His Ala Asp Ile Asp  
485

<210> 37  
<211> 592  
<212> PRT  
<213> *Arabidopsis thaliana*

<400> 37  
Met Glu Asp Pro Asp Ile Lys Arg Cys Lys Leu Ser Cys Val Ala Thr  
1 5 10 15

Val Asp Asp Val Ile Glu Gln Val Met Thr Tyr Ile Thr Asp Pro Lys  
20 25 30

Asp Arg Asp Ser Ala Ser Leu Val Cys Arg Arg Trp Phe Lys Ile Asp  
35 40 45

Ser Glu Thr Arg Glu His Val Thr Met Ala Leu Cys Tyr Thr Ala Thr  
50 55 60

Pro Asp Arg Leu Ser Arg Arg Phe Pro Asn Leu Arg Ser Leu Lys Leu  
65 70 75 80

Lys Gly Lys Pro Arg Ala Ala Met Phe Asn Leu Ile Pro Glu Asn Trp  
85 90 95

Gly Gly Tyr Val Thr Pro Trp Val Thr Glu Ile Ser Asn Asn Leu Arg  
100 105 110

Gln Leu Lys Ser Val His Phe Arg Arg Met Ile Val Ser Asp Leu Asp  
115 120 125

Leu Asp Arg Leu Ala Lys Ala Arg Ala Asp Asp Leu Glu Thr Leu Lys  
130 135 140

Leu Asp Lys Cys Ser Gly Phe Thr Thr Asp Gly Leu Leu Ser Ile Val  
145 150 155 160

Thr His Cys Arg Lys Ile Lys Thr Leu Leu Met Glu Glu Ser Ser Phe  
165 170 175

Ser Glu Lys Asp Gly Lys Trp Leu His Glu Leu Ala Gln His Asn Thr  
180 185 190

Ser Leu Glu Val Leu Asn Phe Tyr Met Thr Glu Phe Ala Lys Ile Ser  
195 200 205

Pro Lys Asp Leu Glu Thr Ile Ala Arg Asn Cys Arg Ser Leu Val Ser  
210 215 220

Val Lys Val Gly Asp Phe Glu Ile Leu Glu Leu Val Gly Phe Phe Lys  
225 230 235 240

Ala Ala Ala Asn Leu Glu Glu Phe Cys Gly Gly Ser Leu Asn Glu Asp  
245 250 255

Ile Gly Met Pro Glu Lys Tyr Met Asn Leu Val Phe Pro Arg Lys Leu  
260 265 270

Cys Arg Leu Gly Leu Ser Tyr Met Gly Pro Asn Glu Met Pro Ile Leu  
275 280 285

Phe Pro Phe Ala Ala Gln Ile Arg Lys Leu Asp Leu Leu Tyr Ala Leu  
290 295 300

Leu Glu Thr Glu Asp His Cys Thr Leu Ile Gln Lys Cys Pro Asn Leu  
305 310 315 320

Glu Val Leu Glu Thr Arg Asn Val Ile Gly Asp Arg Gly Leu Glu Val  
325 330 335

Leu Ala Gln Tyr Cys Lys Gln Leu Lys Arg Leu Arg Ile Glu Arg Gly  
340 345 350

Ala Asp Glu Gln Gly Met Glu Asp Glu Glu Gly Leu Val Ser Gln Arg  
355 360 365

Gly Leu Ile Ala Leu Ala Gln Gly Cys Gln Glu Leu Glu Tyr Met Ala  
370 375 380

Val Tyr Val Ser Asp Ile Thr Asn Glu Ser Leu Glu Ser Ile Gly Thr  
385 390 395 400

Tyr Leu Lys Asn Leu Cys Asp Phe Arg Leu Val Leu Leu Asp Arg Glu  
405 410 415

Glu Arg Ile Thr Asp Leu Pro Leu Asp Asn Gly Val Arg Ser Leu Leu  
420 425 430

Ile Gly Cys Lys Lys Leu Arg Arg Phe Ala Phe Tyr Leu Arg Gln Gly  
435 440 445

Gly Leu Thr Asp Leu Gly Leu Ser Tyr Ile Gly Gln Tyr Ser Pro Asn  
450 455 460

Val Arg Trp Met Leu Leu Gly Tyr Val Gly Glu Ser Asp Glu Gly Leu  
465 470 475 480

Met Glu Phe Ser Arg Gly Cys Pro Asn Leu Gln Lys Leu Glu Met Arg  
485 490 495

Gly Cys Cys Phe Ser Glu Arg Ala Ile Ala Ala Ala Val Thr Lys Leu  
500 505 510

Pro Ser Leu Arg Tyr Leu Trp Val Gln Gly Tyr Arg Ala Ser Met Thr  
515 520 525

Gly Gln Asp Leu Met Gln Met Ala Arg Pro Tyr Trp Asn Ile Glu Leu  
530 535 540

Ile Pro Ser Arg Arg Val Pro Glu Val Asn Gln Gln Gly Glu Ile Arg  
545 550 555 560

Glu Met Glu His Pro Ala His Ile Leu Ala Tyr Tyr Ser Leu Ala Gly  
565 570 575

Gln Arg Thr Asp Cys Pro Thr Thr Val Arg Val Leu Lys Glu Pro Ile  
580 585 590

<210> 38  
<211> 520  
<212> PRT  
<213> Zea mays

<400> 38  
Met Arg Ala Thr Ile Pro Ala Leu Ser Leu Leu Val Thr Pro Arg Leu  
1 5 10 15

Pro Ser Leu Ala Val Pro Leu Ala Gly Gly Arg Leu Arg Glu Gly Gly  
20 25 30

Arg Ser Arg Thr Arg Leu Arg Val Ala Ala Pro Thr Ser Val Pro Gly  
35 40 45

Glu Ala Ala Glu Gln Ala Glu Pro Ser Thr Ser Ala Pro Glu Ser Gly  
50 55 60

Glu Lys Phe Ser Trp Arg Asp His Trp Tyr Pro Val Ser Leu Val Glu  
65 70 75 80

Asp Leu Asp Pro Ser Arg Pro Thr Pro Phe Gln Leu Leu Asn Arg Asp  
85 90 95

Leu Val Ile Trp Lys Glu Pro Lys Ser Gly Glu Trp Val Ala Leu Asp  
100 105 110

Asp Arg Cys Pro His Arg Leu Ala Pro Leu Ser Glu Gly Arg Ile Asp  
115 120 125

Glu Thr Gly Cys Leu Gln Cys Ser Tyr His Gly Trp Ser Phe Asp Gly  
130 135 140

Ser Gly Ala Cys Thr Lys Ile Pro Gln Ala Met Pro Glu Gly Pro Glu  
145 150 155 160

Ala Arg Ala Val Arg Ser Pro Lys Ala Cys Ala Ile Lys Phe Pro Thr  
165 170 175

Leu Val Ser Gln Gly Leu Leu Phe Val Trp Pro Asp Glu Asn Gly Trp  
180 185 190

Glu Lys Ala Ala Ala Thr Lys Pro Pro Met Leu Pro Lys Glu Phe Glu  
195 200 205

Asp Pro Ala Phe Ser Thr Val Thr Ile Gln Arg Asp Leu Phe Tyr Gly  
210 215 220

Tyr Asp Thr Leu Met Glu Asn Val Ser Asp Pro Ser His Ile Glu Phe  
225 230 235 240

Ala His His Lys Val Thr Gly Arg Arg Asp Arg Ala Arg Pro Leu Thr  
245 250 255

Phe Arg Met Glu Ser Ser Gly Ala Trp Gly Tyr Ser Gly Ala Asn Ser  
260 265 270

Gly Asn Pro Arg Ile Thr Ala Thr Phe Glu Ala Pro Cys Tyr Ala Leu  
275 280 285

Asn Lys Ile Glu Ile Asp Thr Lys Leu Pro Ile Phe Gly Asp Gln Lys  
290 295 300

Trp Val Ile Trp Ile Cys Ser Phe Asn Ile Pro Met Ala Pro Gly Lys  
305 310 315 320

Thr Arg Ser Ile Val Cys Ser Ala Arg Asn Phe Phe Gln Phe Thr Met  
325 330 335

Pro Gly Lys Ala Trp Trp Gln Leu Val Pro Arg Trp Tyr Glu His Trp  
340 345 350

Thr Ser Asn Leu Val Tyr Asp Gly Asp Met Ile Val Leu Gln Gly Gln  
355 360 365

Glu Lys Ile Phe Leu Ala Ala Thr Lys Glu Ser Ser Thr Asp Ile Asn  
370 375 380

Gln Gln Tyr Thr Lys Ile Thr Phe Thr Pro Thr Gln Ala Asp Arg Phe  
385 390 395 400

Val Leu Ala Cys Arg Thr Trp Leu Arg Lys Phe Gly Asn Ser Gln Pro  
405 410 415

Glu Trp Phe Gly Asn Pro Thr Gln Glu Ala Leu Pro Ser Thr Val Leu  
420 425 430

Ser Lys Arg Glu Met Leu Asp Arg Tyr Glu Gln Leu Ser Leu Lys Cys  
435 440 445

Ser Ser Cys Lys Gly Ala Tyr Asn Ala Phe Gln Asn Leu Gln Lys Val  
450 455 460

Phe Met Gly Ala Thr Val Val Cys Cys Ala Ala Ala Gly Ile Pro Pro  
465 470 475 480

Asp Val Gln Leu Arg Leu Leu Ile Gly Ala Ala Ala Leu Val Ser Ala  
485 490 495

Ala Ile Ala Tyr Ala Phe His Glu Leu Gln Lys Asn Phe Val Phe Val  
500 505 510

Asp Tyr Val His Ala Asp Ile Asp  
515 520